

# Changing Landscapes: Glaciated Landscapes

Glacial erosion landforms

# What you need to know

- iii. Macro-scale glacial erosional landforms and landscapes both for and beyond the UK including cirques, pyramidal peaks, arêtes, glacial troughs, ribbon lakes, hanging valleys and truncated spurs;
- iv. Meso-scale glacial landforms and landscapes both for and beyond the UK including roches moutonnées, crag and tail
- v. Micro-scale glacial landforms including striations both for and beyond the UK

# Macro-scale erosion landforms

Cirque

Glacial trough

Arête

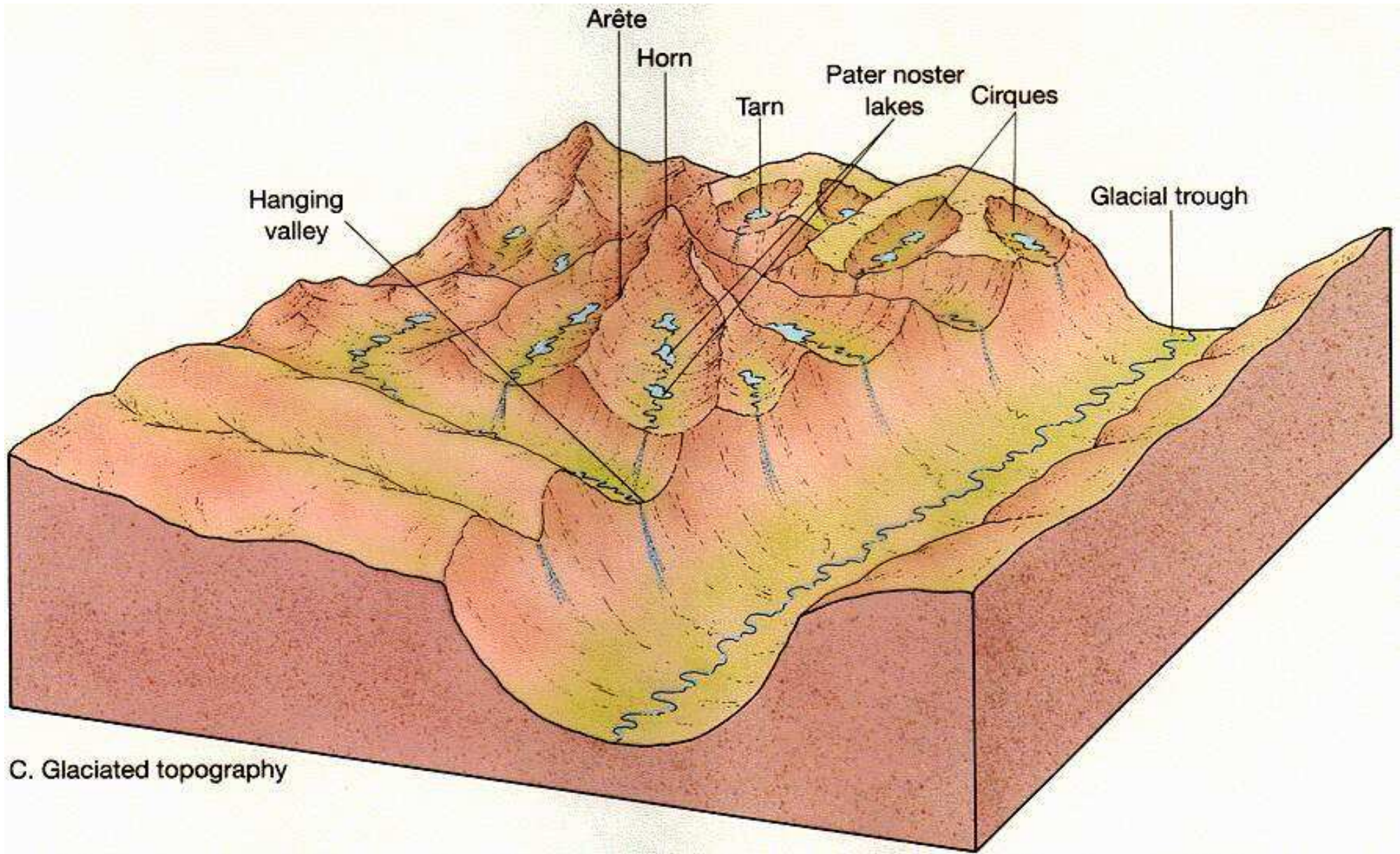
Truncated spur

Pyramidal peak

Hanging valley

Ribbon lake

# Landform relationships



C. Glaciated topography

# **Cirques and associated landforms**

# Cirques

Google Earth- just east of Anchorage  
Snowdonia



# **Cirque formation**

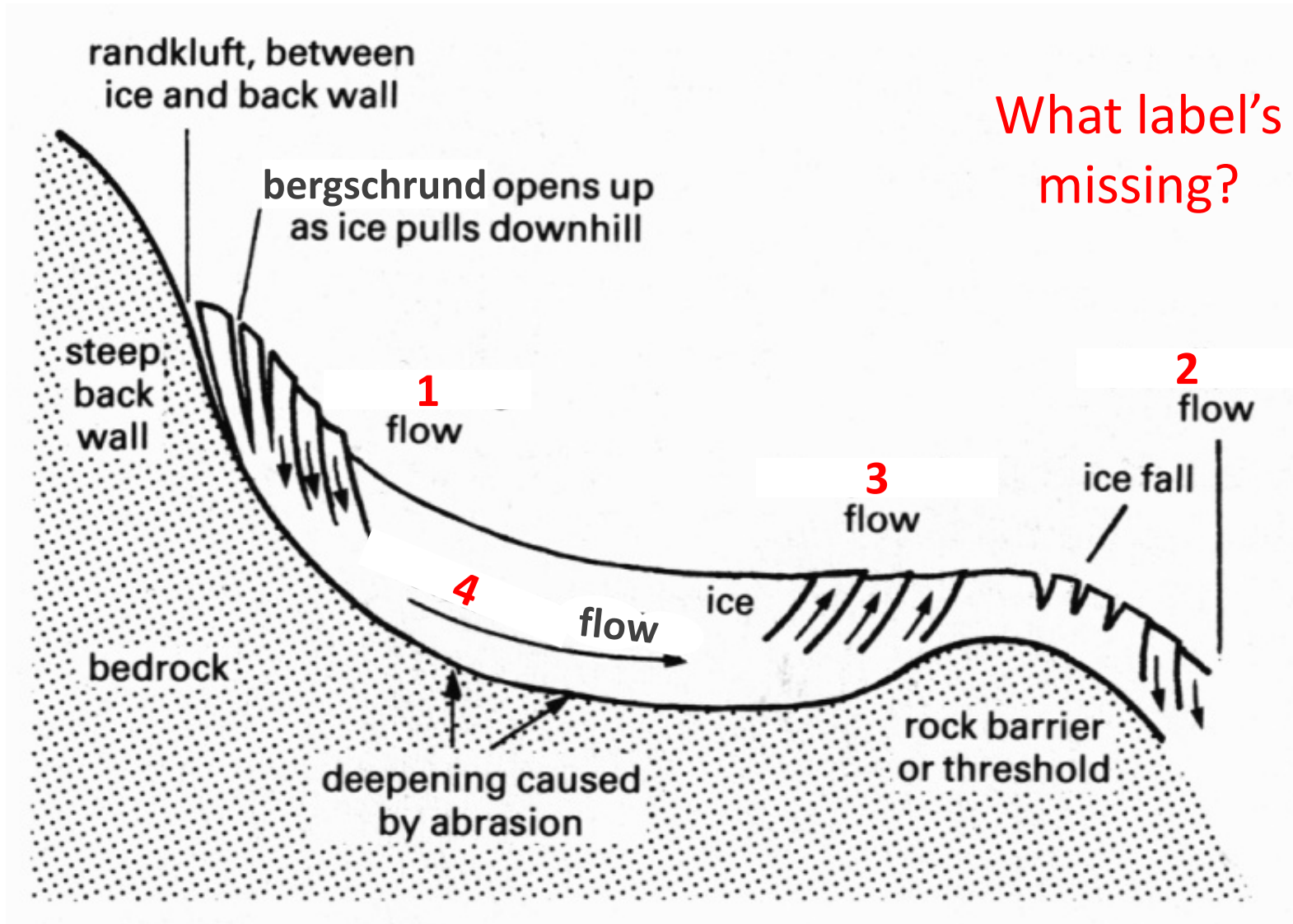
# Cirque formation

1. The development of a cirque glacier



# Cirque formation

## 2. The development of the cirque itself



# Cirque formation

## 3. Post-glaciation

Cwm Cau, Cader Idris, Snowdonia



How can post-glacial processes affect the nature of a cirque?

# Arêtes and pyramidal peaks



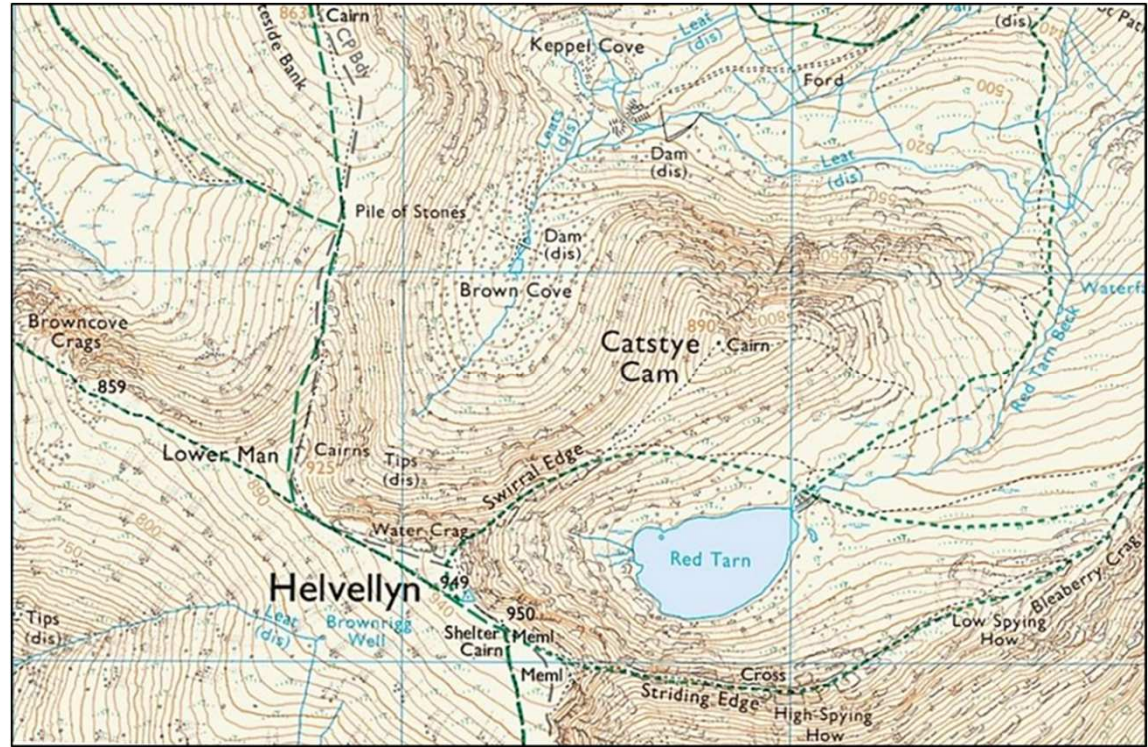
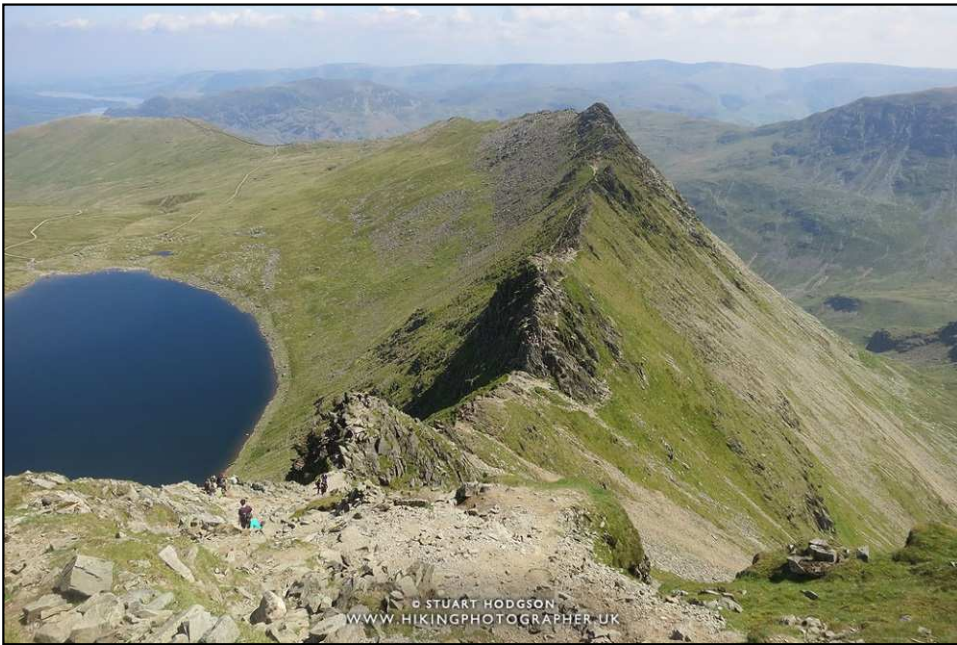


# Arêtes and pyramidal peaks



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WWW.HIKINGPHOTOGRAPHER.UK

# Arêtes and pyramidal peaks



# Macro-scale landforms

Find aerial photos of UK example(s) of the following. Locate them and annotate them to **describe** their main features:

Cirque

Pyramidal peak

Arête

# **Glacial troughs and associated landforms**

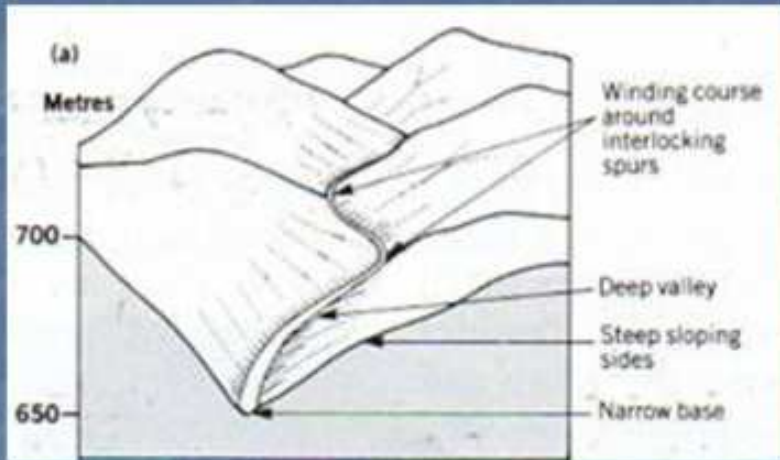


# Glacial troughs & truncated spurs

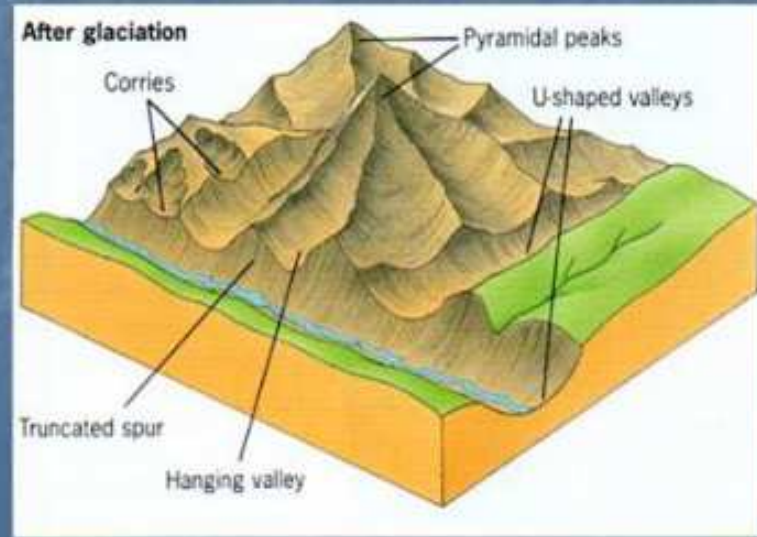
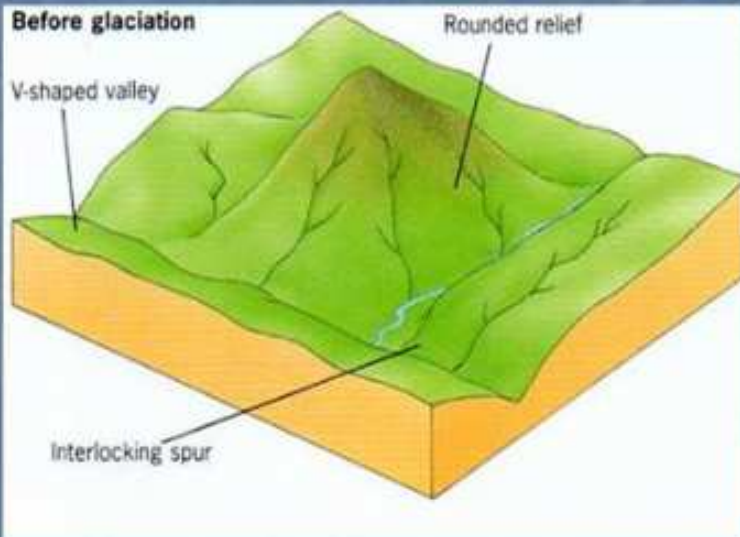
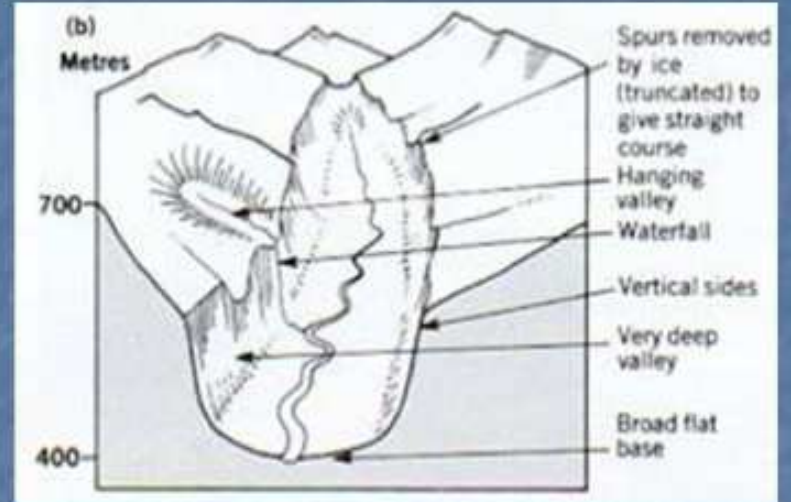
Glen Coe, Grampians, Scotland



## Water formed valley



## Ice-formed valley



# Hanging valleys



# Ribbon Lakes



Buttermere & Crummock Water

# Formation of ribbon lakes

# Macro-scale landforms

Find aerial photos of UK example(s) of the following. Locate them and annotate them to **describe** their main features:

Glacial Trough  
Hanging valley  
Truncated spur  
Ribbon lake

# Meso-scale landforms

Roches moutonnées  
and crag and tail

**Roches Moutonnées -**

**Roche Moutonnée -**



# Some roches moutonnées



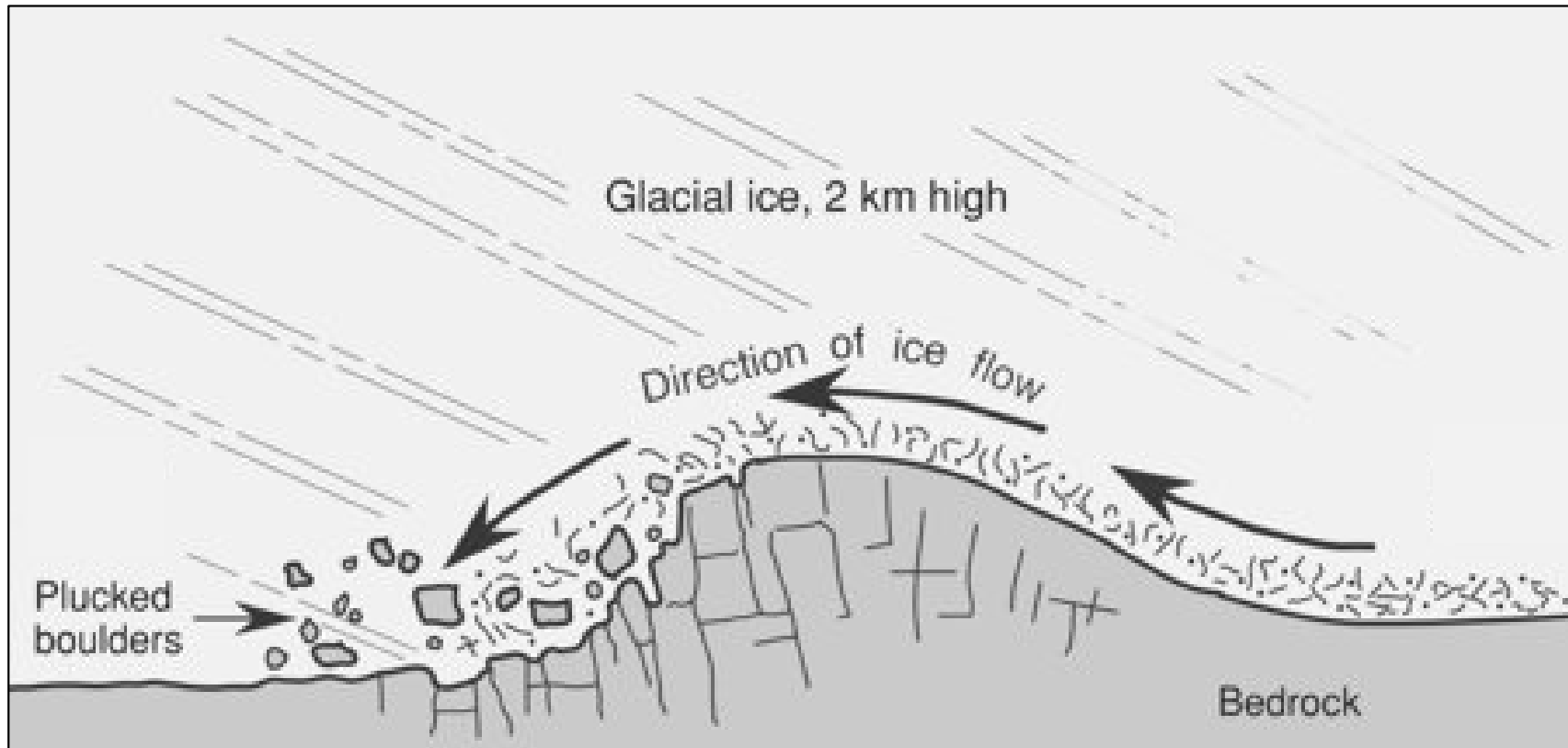
# And another one...



**...in front of Steilimmigletscher, Bernese Alps, Switzerland**

<http://www.swisseduc.ch/glaciers/glossary/roche-moutonnee-en.html>

# Roche moutonnée formation



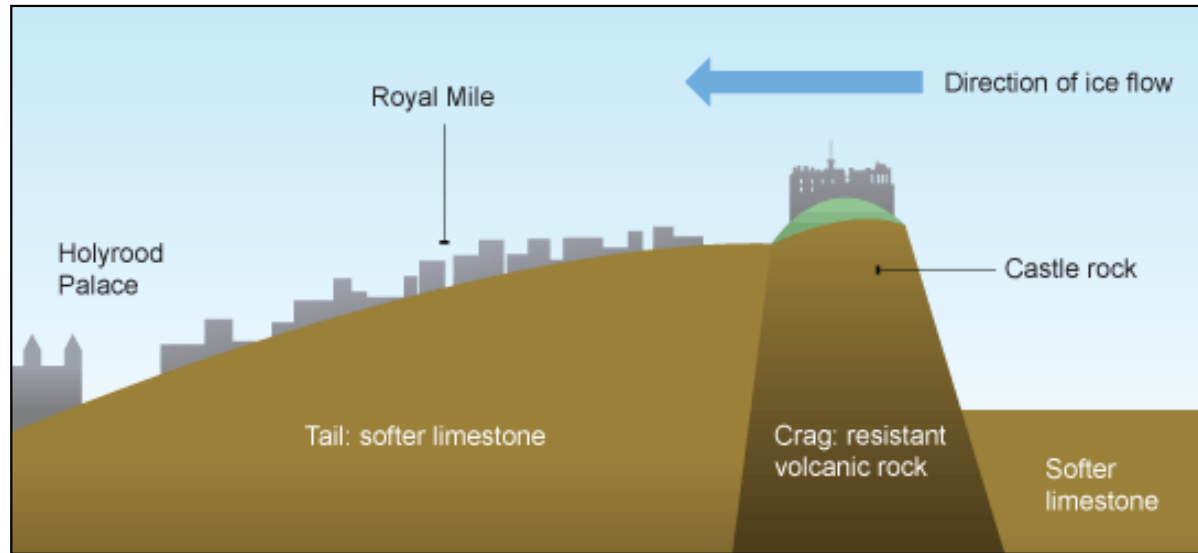
# Crag and tail



**Earls Seat, Campsie Fells, West Highlands**

<http://www.jmherbert.co.uk/gallery/pages/gallery134.html>

# Crag and tail formation



Side View

K.A. Lemke

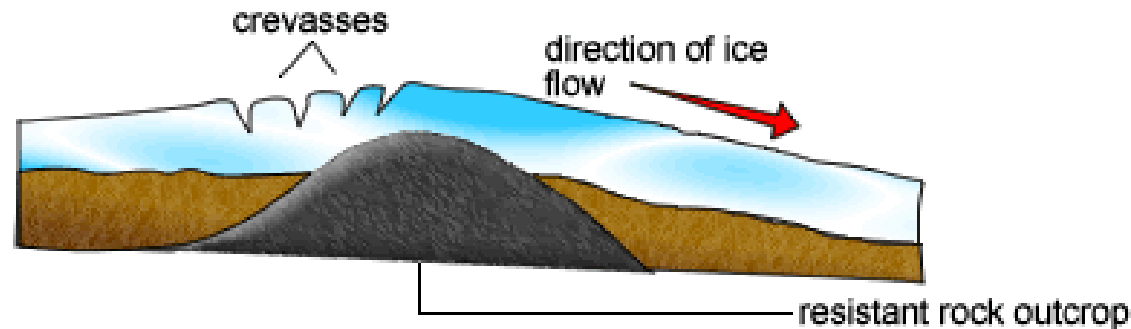


Map View (contour lines)

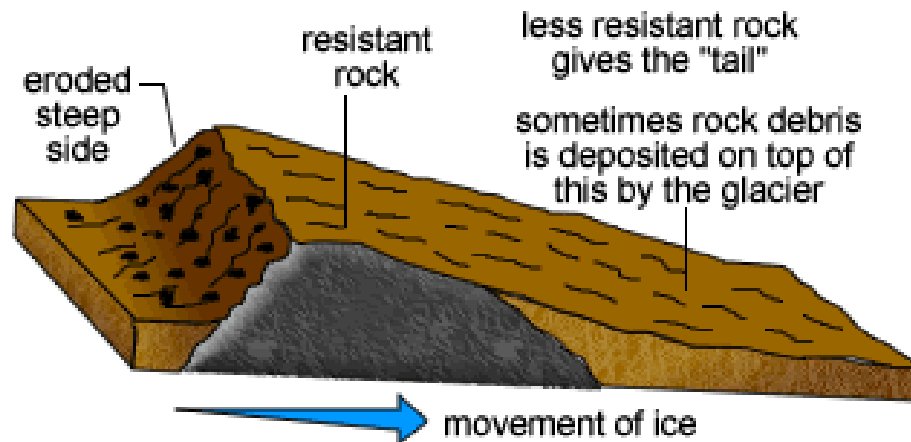


# Crag and tail formation

Crag and tail during glaciation



After glaciation



See also: <https://www.sheffield.ac.uk/drumlins/cragandtail>

# **Glacial Scour**

**Ice sheet erosion in lowland areas**

knock and lochan



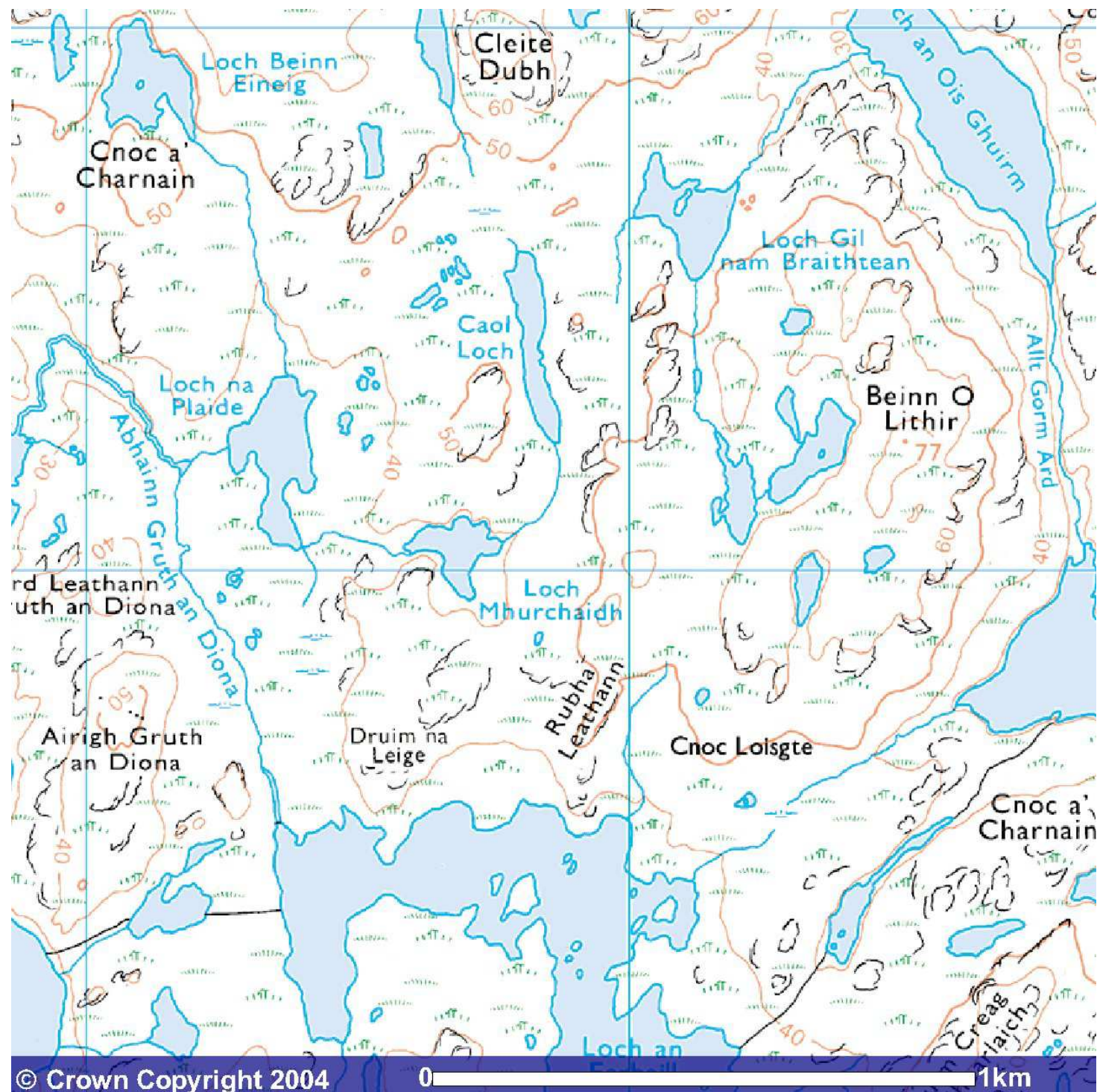
**Western Scotland**



# Isle of Lewis



# Isle of Lewis



# Manitoba



# Canadian Shield



**Canadian Shield, Northern  
Territories, from space.**

